

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in this application.

LISTING OF CLAIMS

1. (Currently Amended) A wedge-operated brake apparatus comprising:
a piston accommodated within a cylinder portion to be slidable along an axial direction of the piston, the piston generating a braking force when axially driven;
an actuator for generating a linear brake-actuating input; and
a wedge transmission mechanism which is connected to the actuator so as to be driven thereby and to convert the linear brake-actuating input into a brake-actuating output in the axial direction of the piston, the brake-actuating output being transmitted to the piston so as to drive the piston,
wherein the wedge transmission mechanism includes
a first plate member which moves together with the piston,
a second plate member disposed in opposition to the first plate member and fixedly secured to a housing,
a wedge member disposed between the first and second plate members and engaging respective engaging surfaces of the first and second plate members via rollers, and
a holder for rotatably holding the rollers and holding the wedge member while allowing linear movement of the wedge member, the holder being able to move, while being guided by the first and second plate members, when the wedge member moves linearly;

wherein the linear brake-actuating input generated upon operation of the actuator acts on the wedge member as a pulling force.

2. (Canceled)

3. (New) A wedge-operated brake apparatus according to claim 1, further comprising an automatic gap adjusting mechanism for automatically adjusting a gap between a brake rotor and a brake pad during a non-braking state.

4. (New) A wedge-operated brake apparatus according to claim 1, wherein a bearing is provided between the piston and the cylinder portion to enable smooth axial movement of the piston.

5. (New) A wedge-operated brake apparatus according to claim 1, wherein a direction of the linear movement of the wedge member substantially coincides with a direction of the linear brake-actuating input.

6. (New) A wedge-operated brake apparatus according to claim 1, wherein the holder is configured to constrain the wedge member, the first plate and the second plate in an axial direction of the rollers.

7. (New) A wedge-operated brake apparatus according to claim 1, wherein the piston is biased in an axial direction of the piston away from a brake rotor by a disk spring.

8. (New) A wedge-operated brake apparatus according to claim 1,
wherein the actuator is an electric motor.

9. (New) A wedge-operated brake apparatus according to claim 8,
wherein a direction of the linear movement of the wedge member is substantially
parallel to an output shaft of the electric motor.

10. (New) A wedge-operated brake apparatus according to claim 8,
wherein the linear brake-actuating input is generated through cooperative operations
of the electric motor, a gear train and a screw feed mechanism.